

Fig. 1

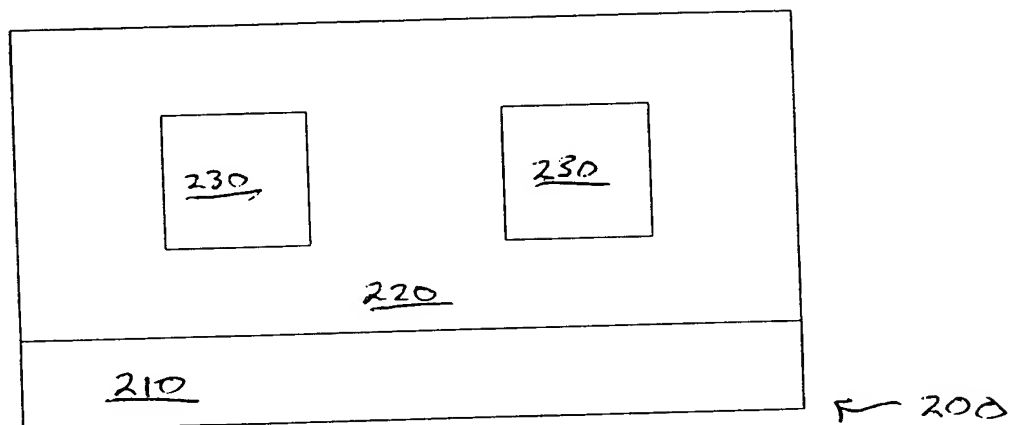


Fig. 2

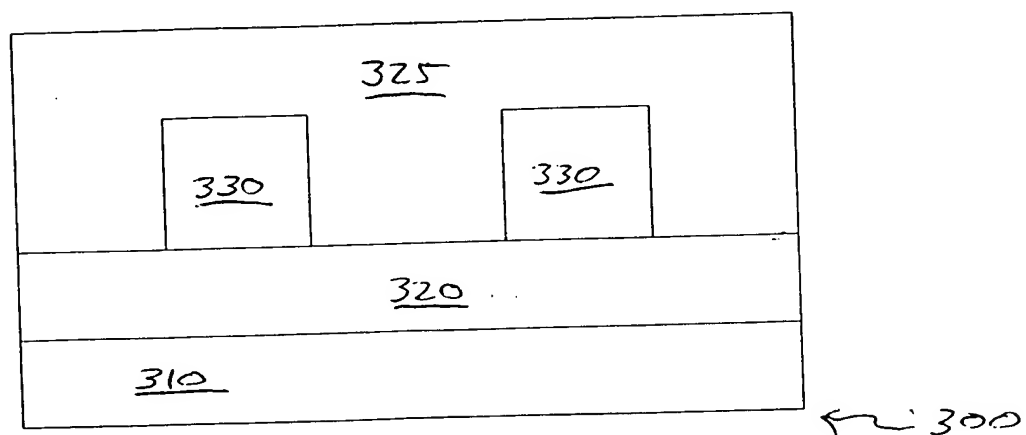


Fig. 3

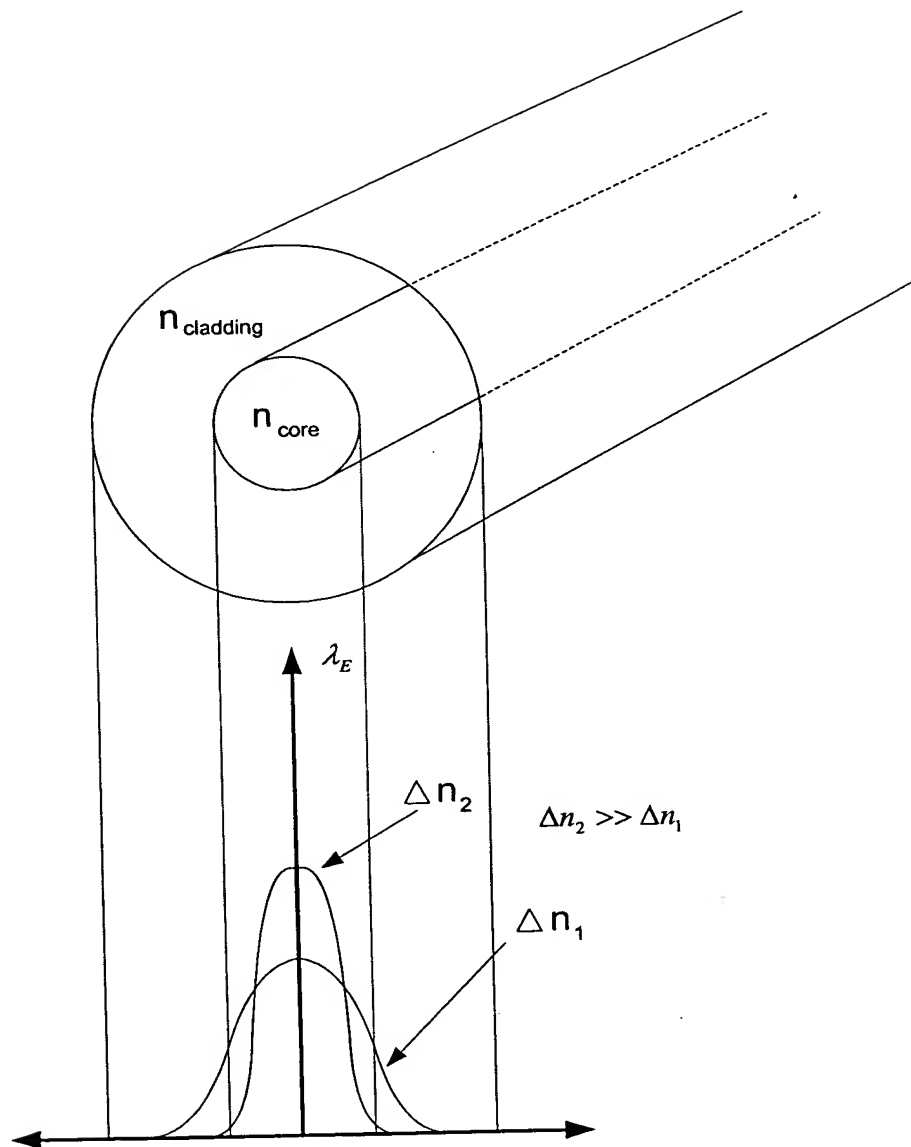


Fig. 4

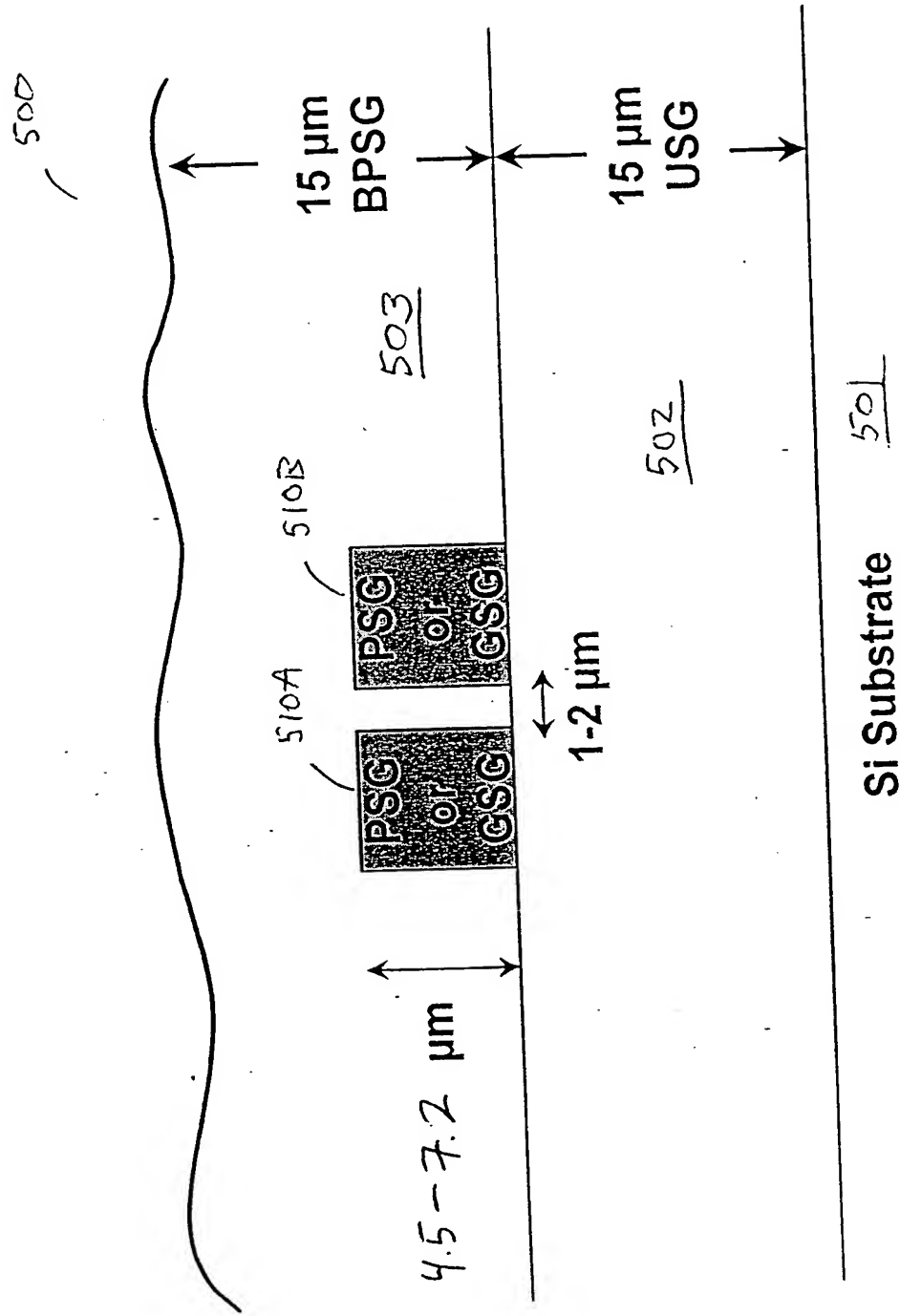


Fig. 5

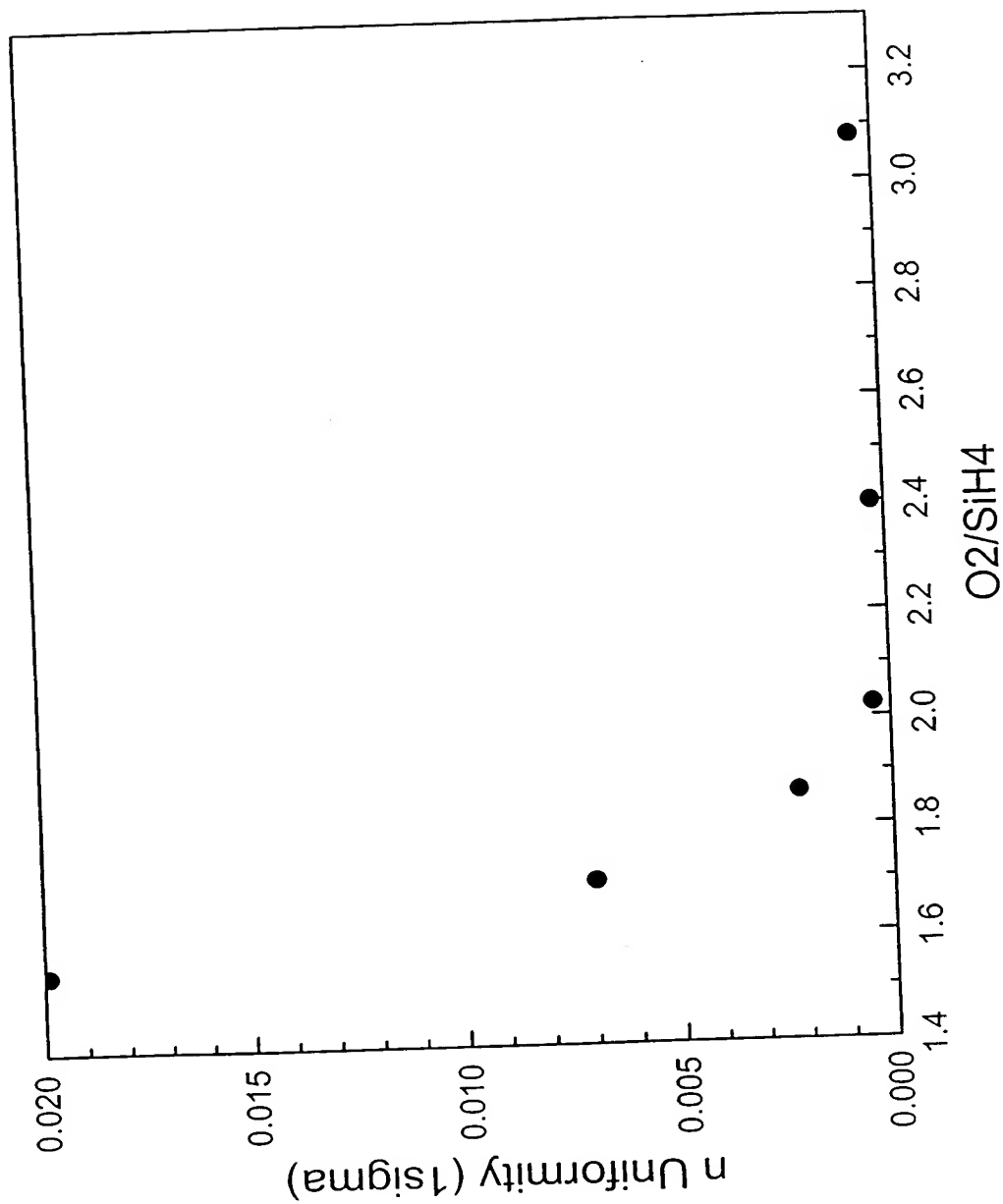


Fig. 6

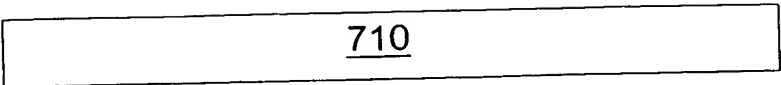


Fig. 7A

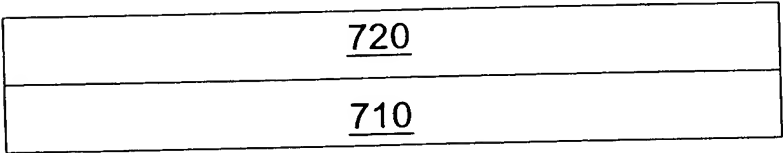


Fig. 7B

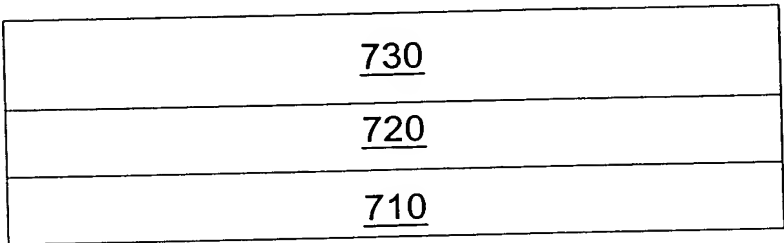


Fig. 7C

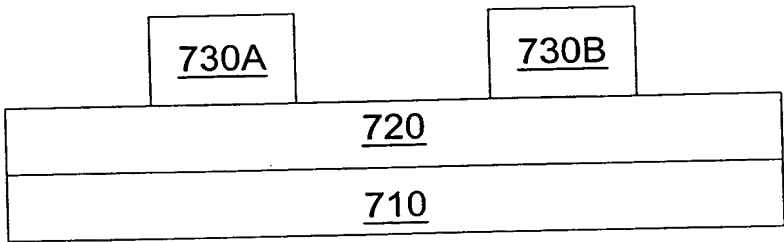


Fig. 7D

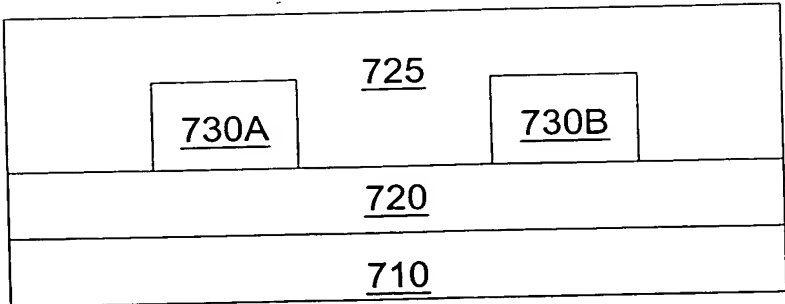


Fig. 7E

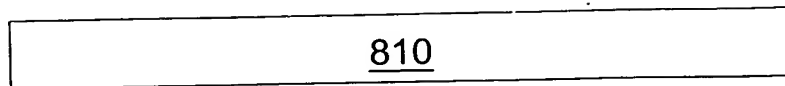


Fig. 8A

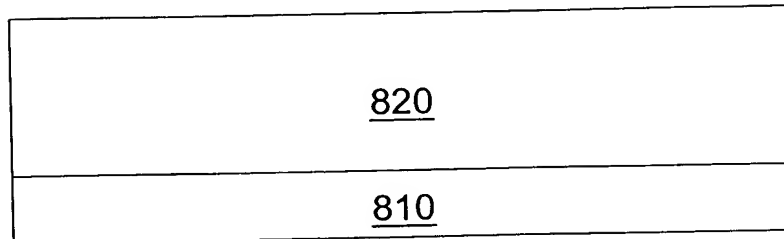


Fig. 8B

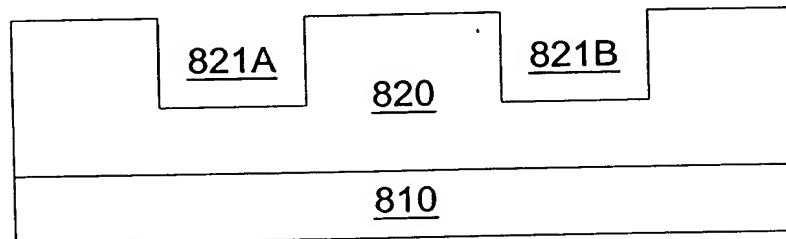


Fig. 8C

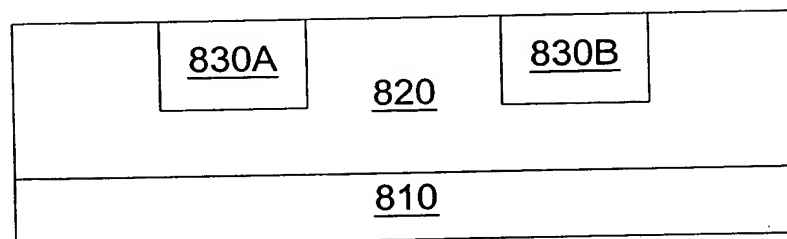


Fig. 8D

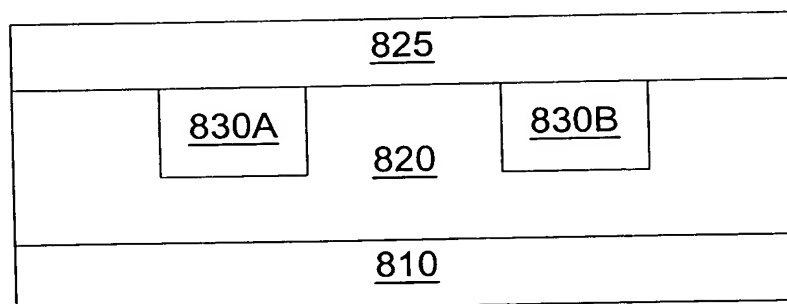


Fig. 8E

Figure 9 shows a cross-sectional view of a device structure. The structure consists of a Si Substrate (901) with a 902 layer on top. A 1 μm thick layer (903) is deposited on the 902 layer. This layer contains two SiON regions (910A and 910B) separated by a 2-3 μm gap. A 7 μm thick BPSG layer (904) is deposited on top of the 903 layer. A 3 μm thick USG layer (905) is deposited on top of the BPSG layer. The top surface is indicated by a wavy line.

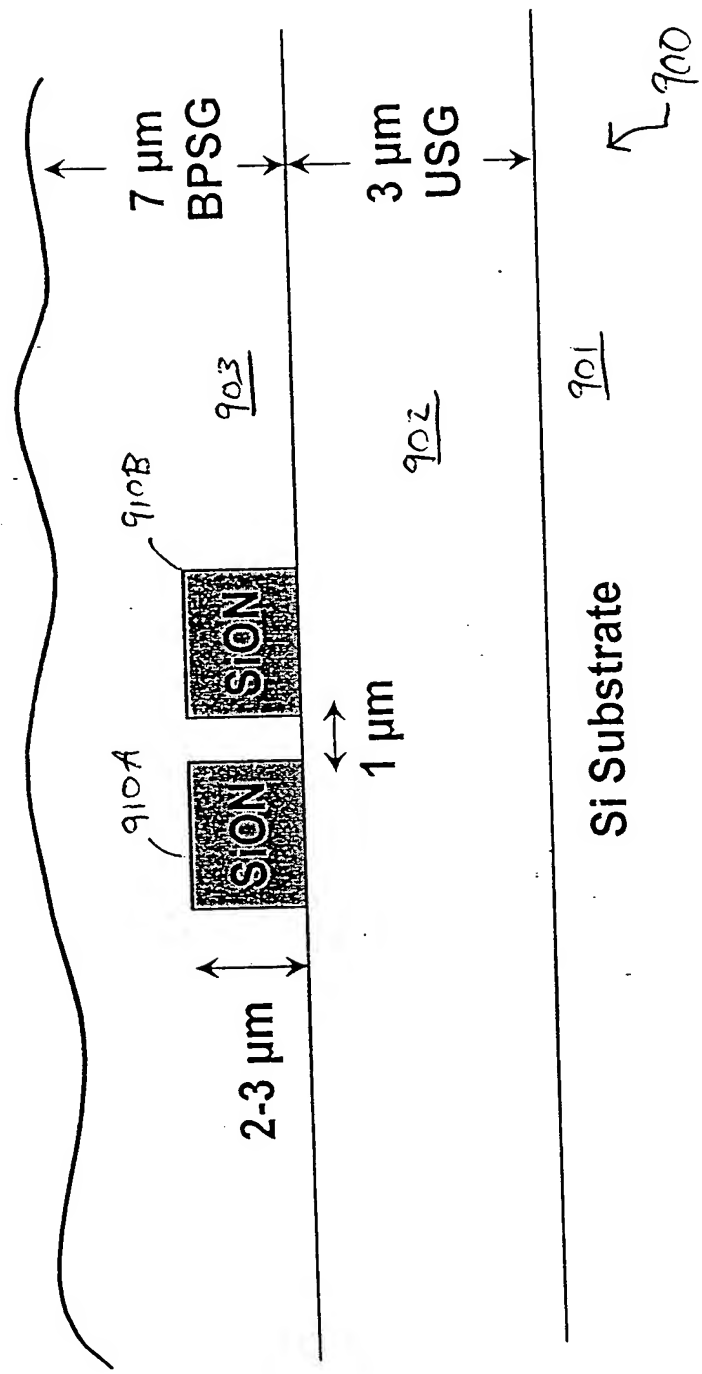


Fig. 9

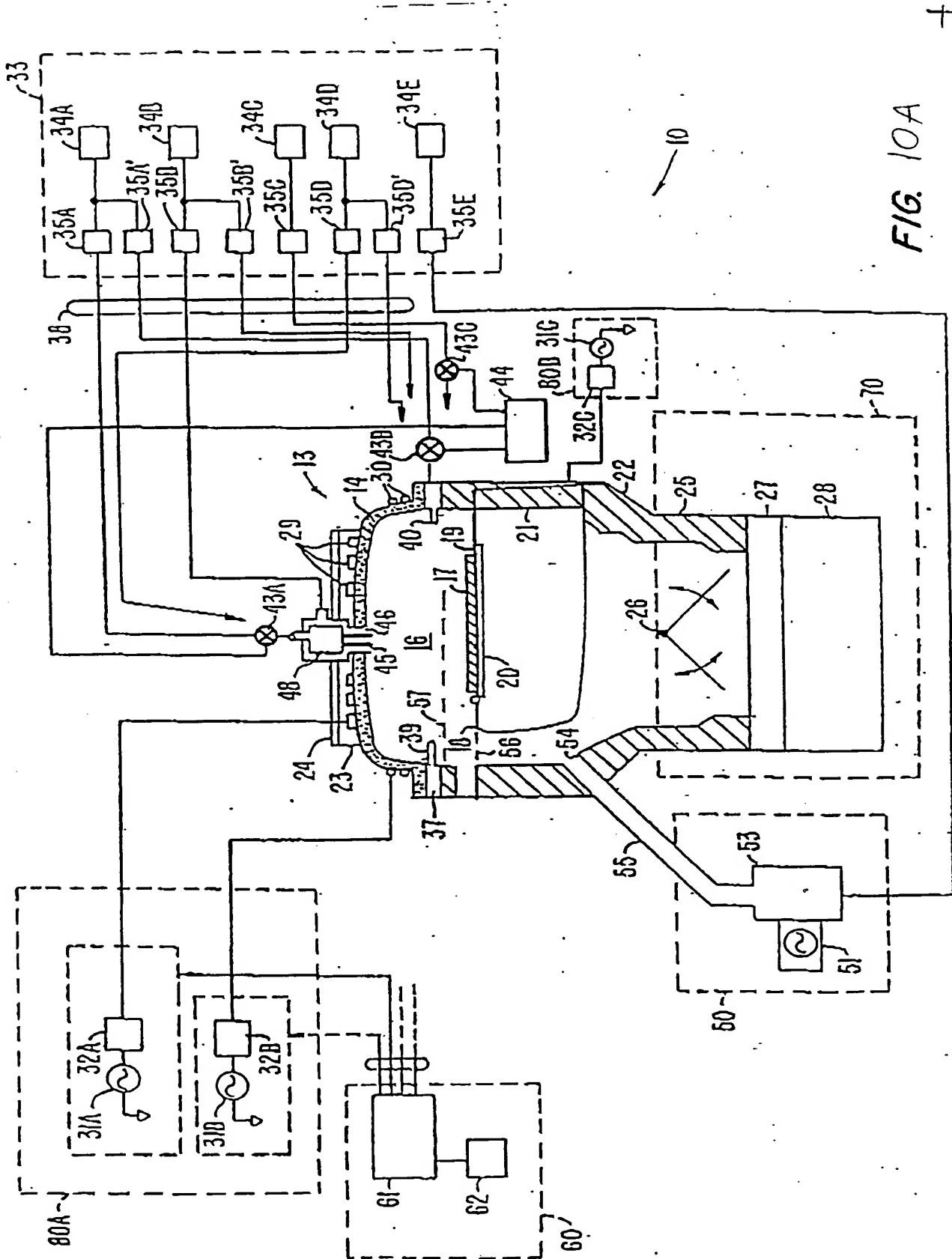


FIG. 10A

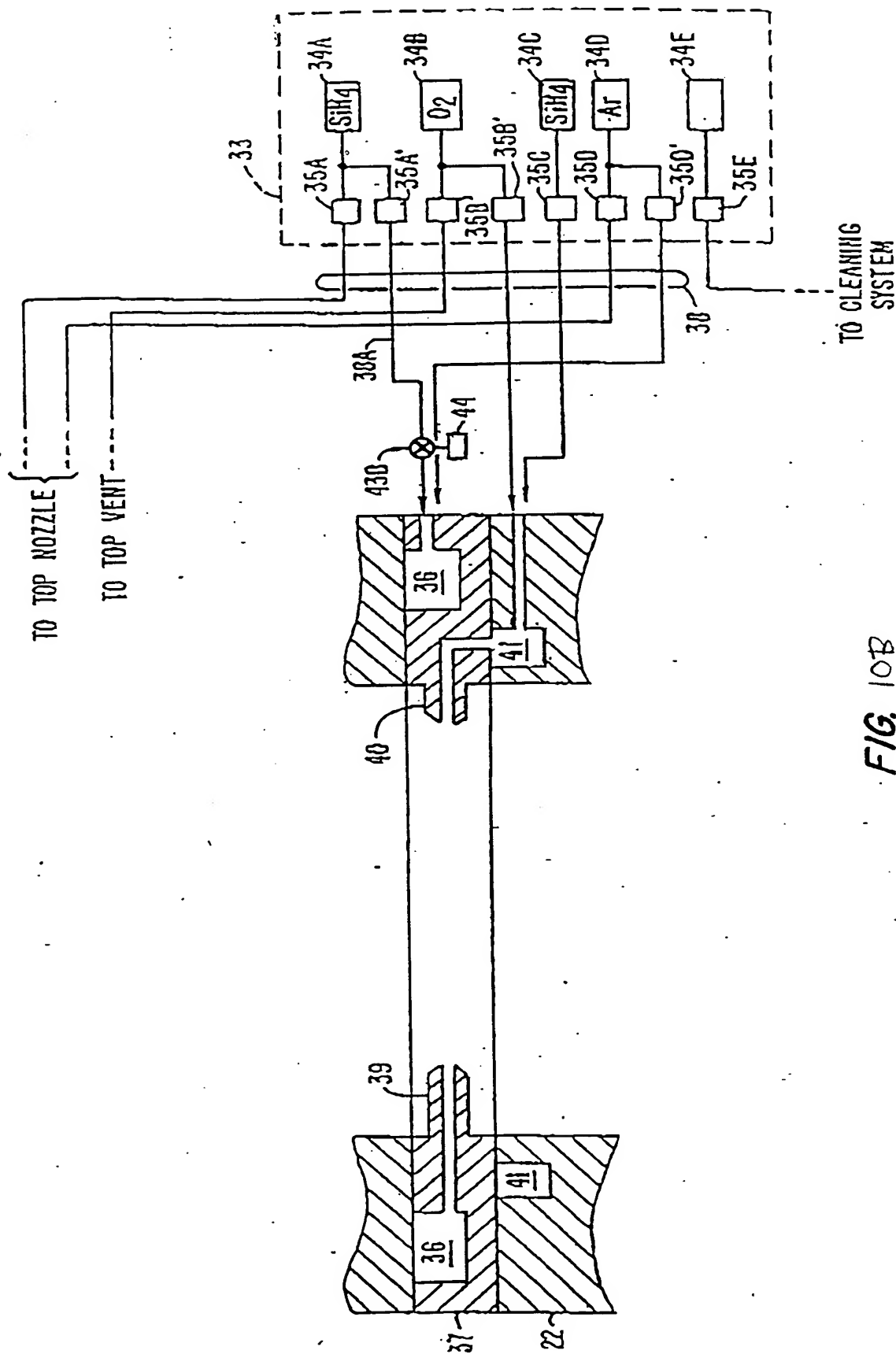


FIG. 10B

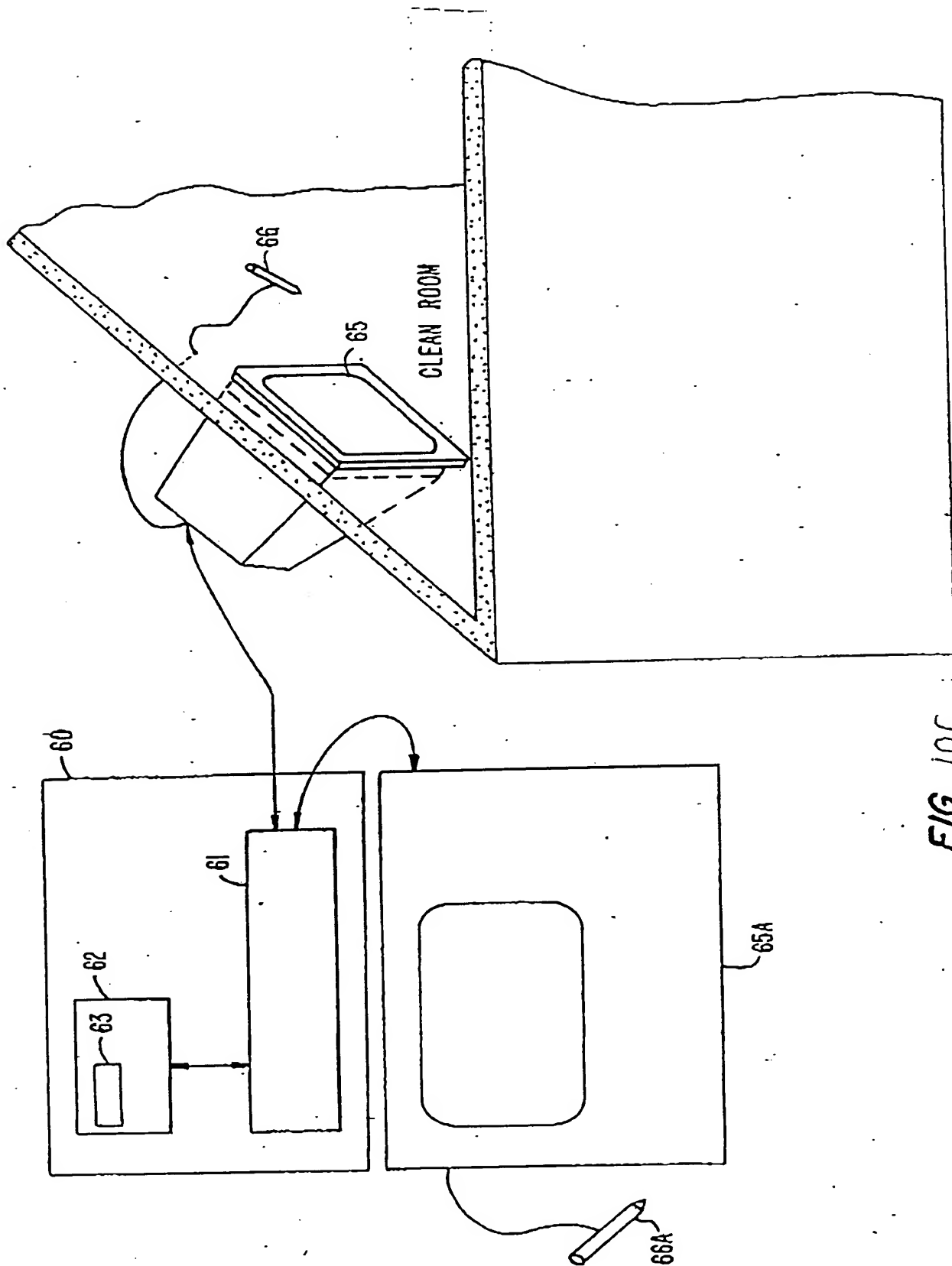


FIG. 10C

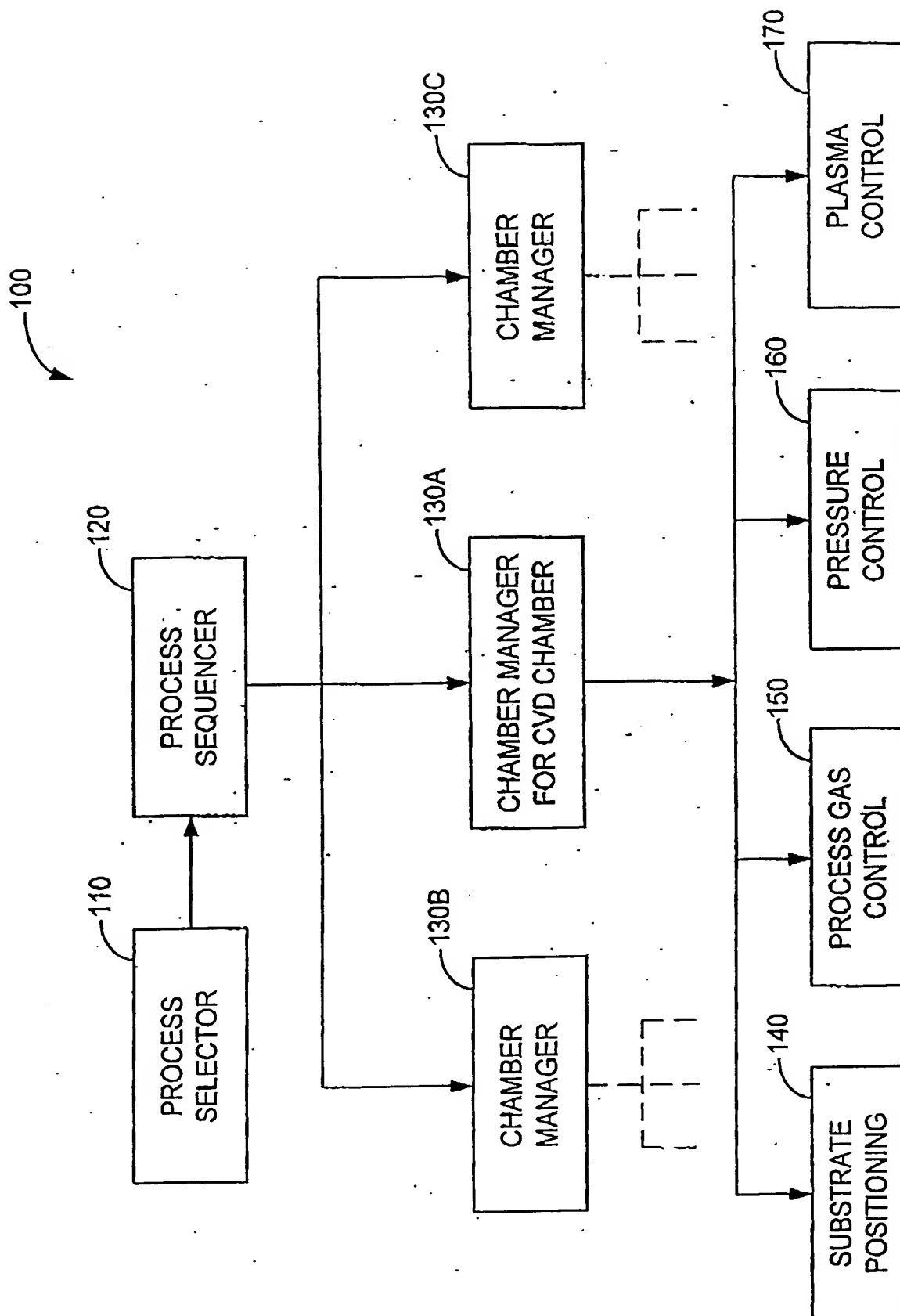
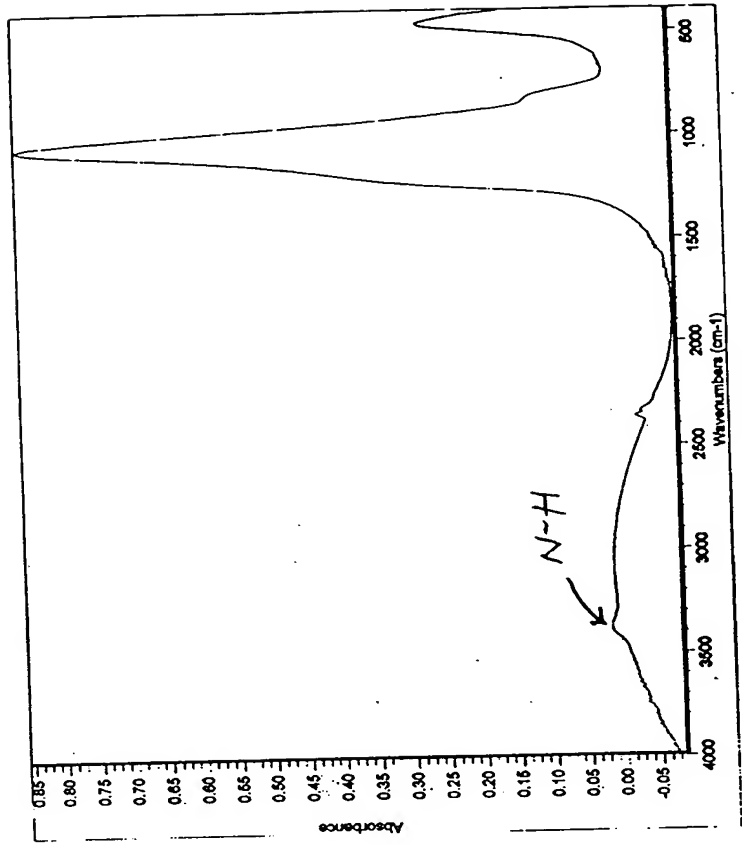


FIG. 10D

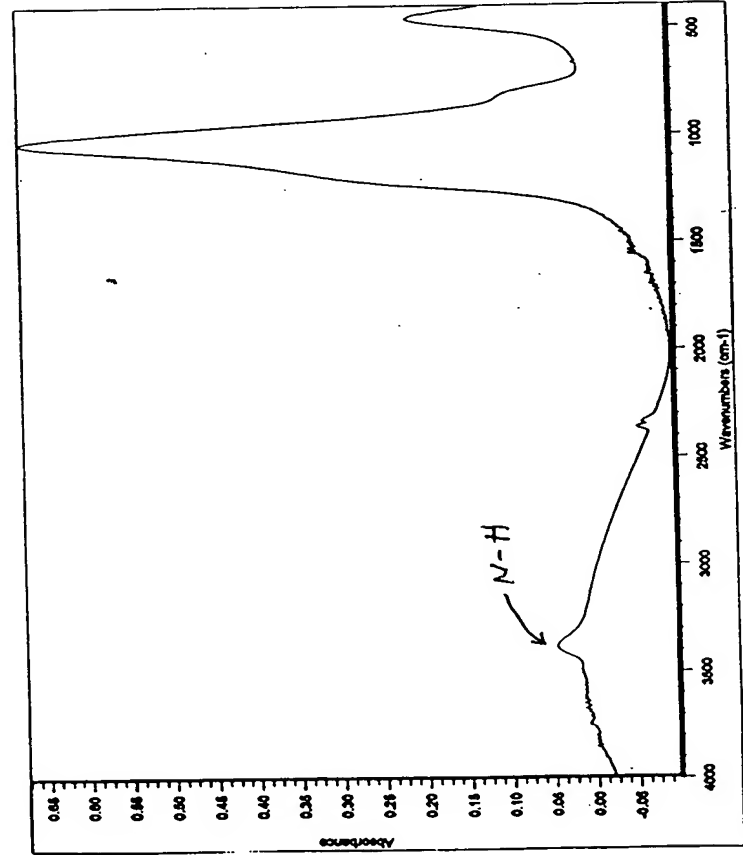
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RI = 1.57



HDP CVD

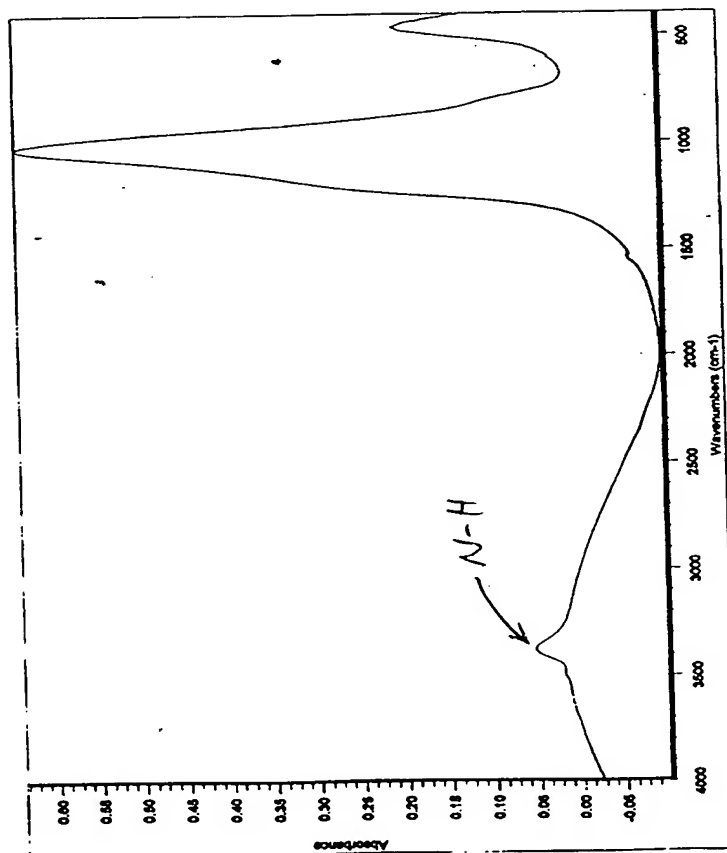
Fig 11B



PE CVD

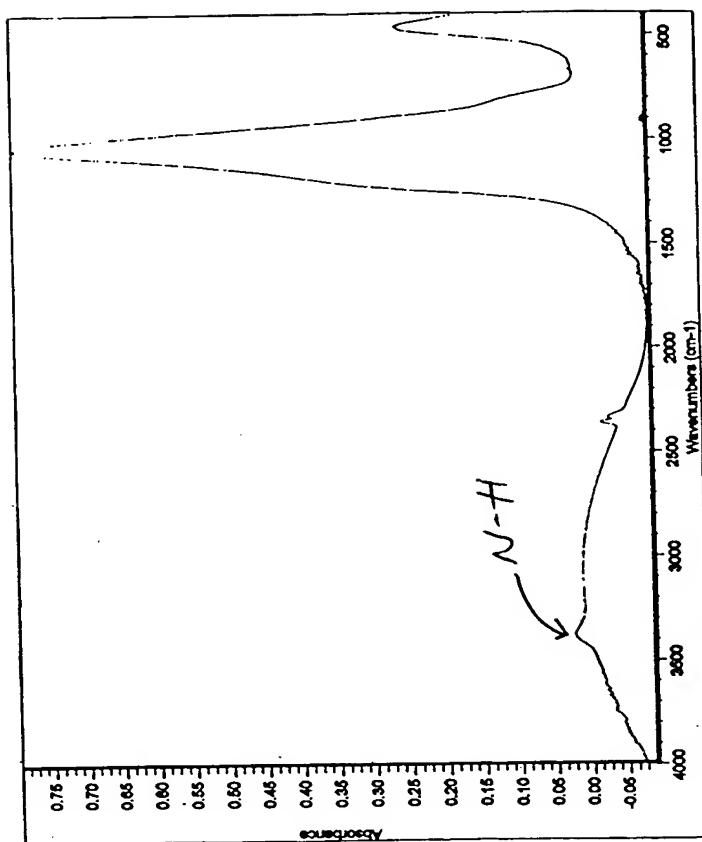
Fig 11A

RI = 1.59



PE CVD

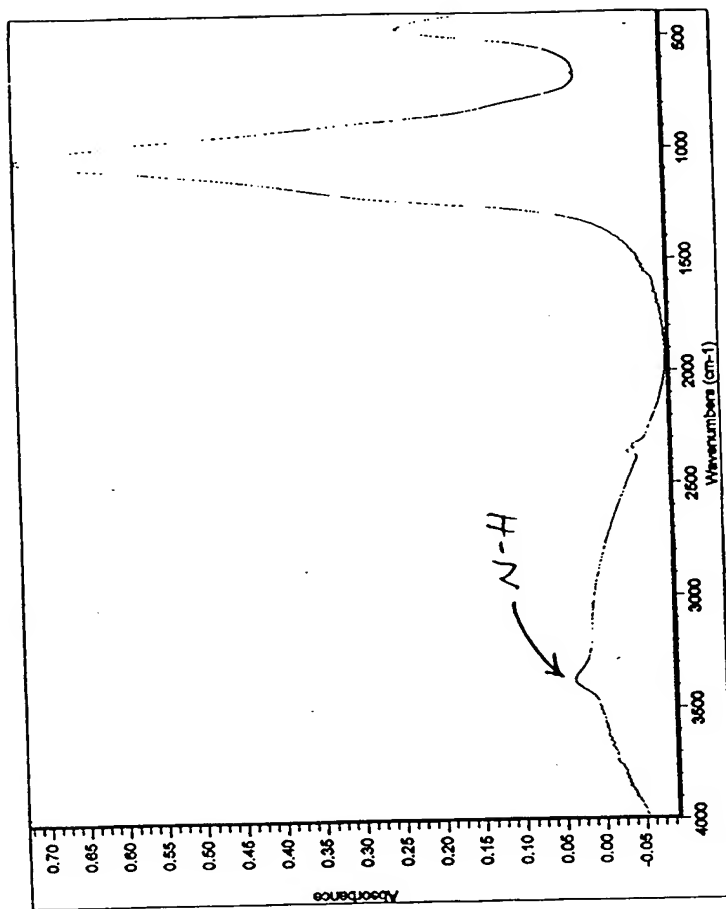
Fig 11C



HDP CVD

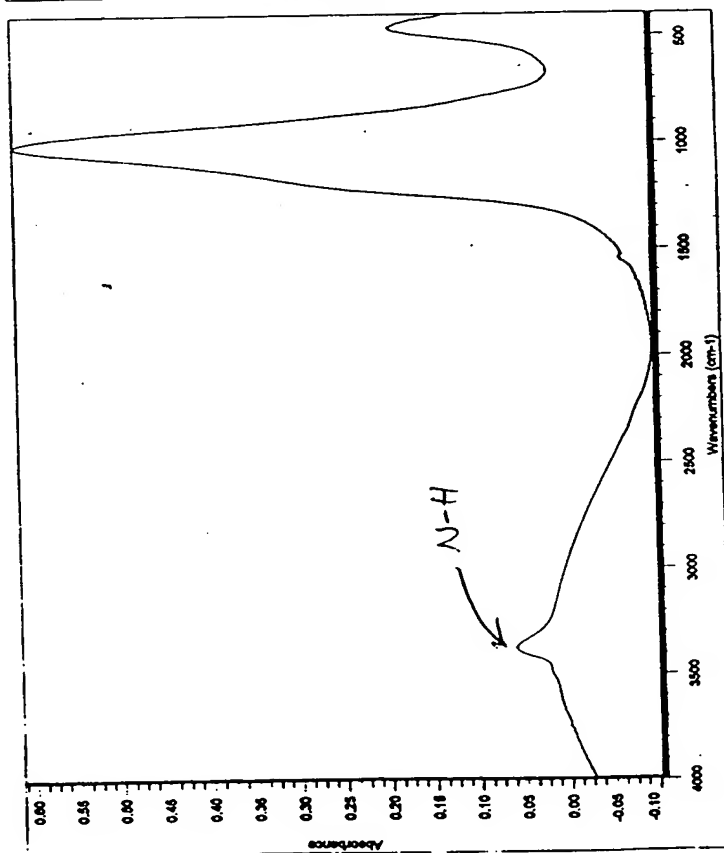
Fig 11D

RI = 1.61



HDP CVD

Fig 11F

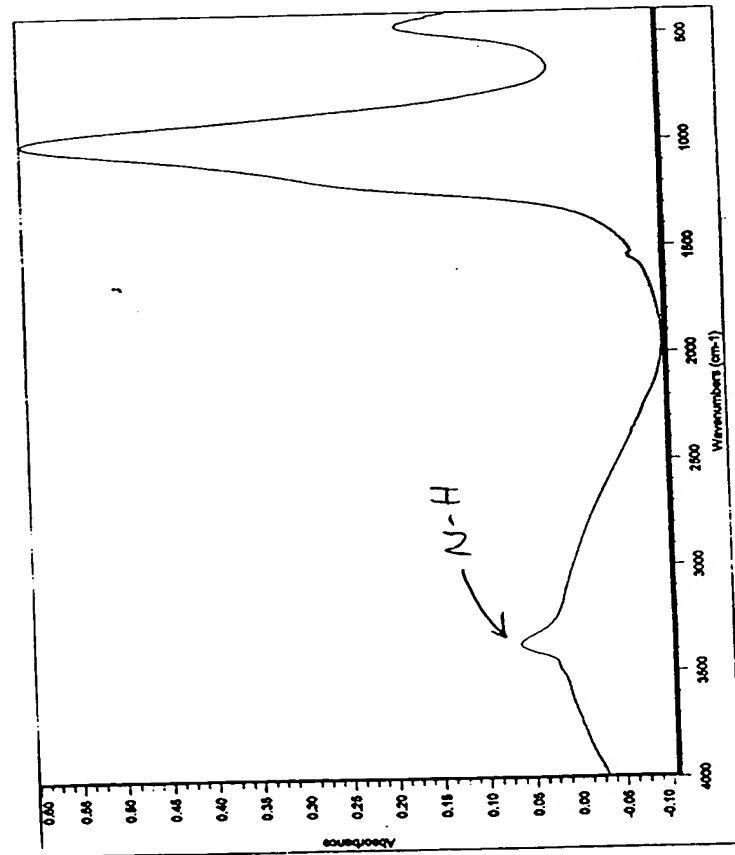


PE CVD

Fig 11E

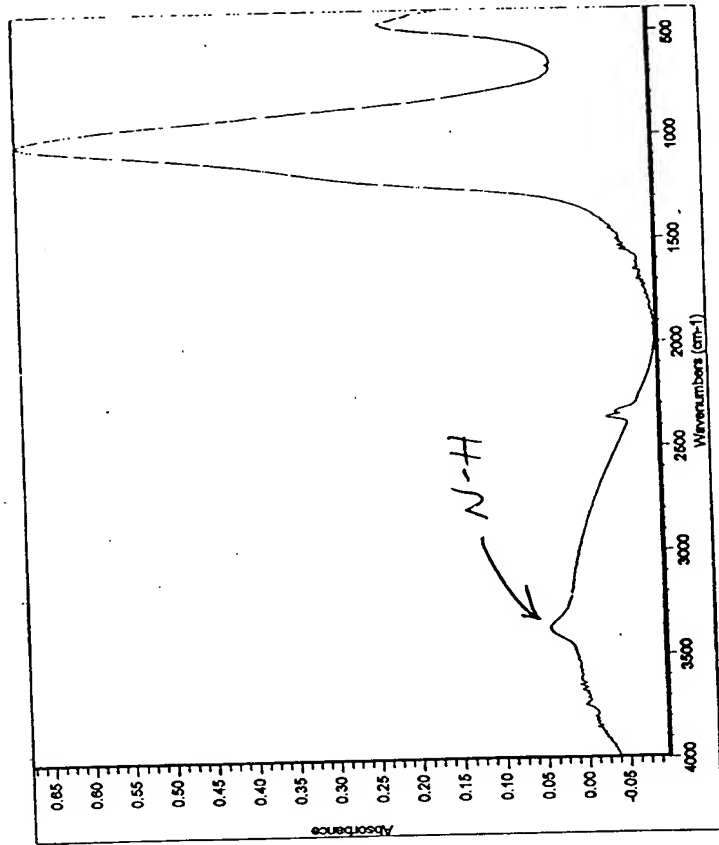
Figure 116 shows the infrared spectrum of the sample, which is a solid material. The spectrum displays characteristic absorption bands, including a broad peak around 3400 cm⁻¹, likely due to N-H stretching, and a sharp peak around 1650 cm⁻¹, characteristic of C=O stretching. The x-axis represents the wavenumber in cm⁻¹, ranging from 4000 to 500. The y-axis represents the absorbance, ranging from 0.00 to 0.85.

RI = 1.63



PE CVD

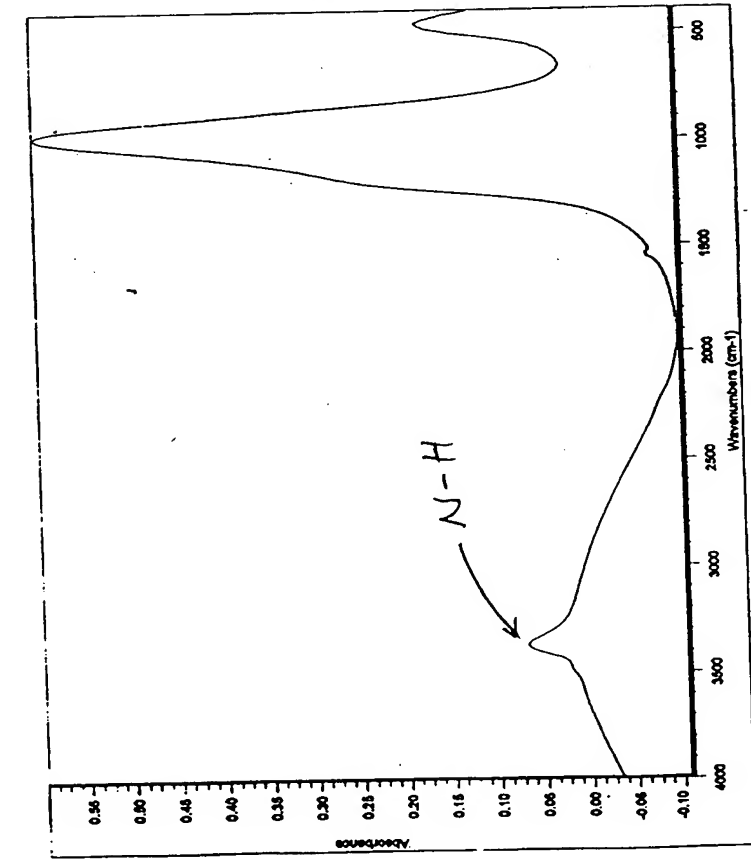
Fig 116



HDP CVD

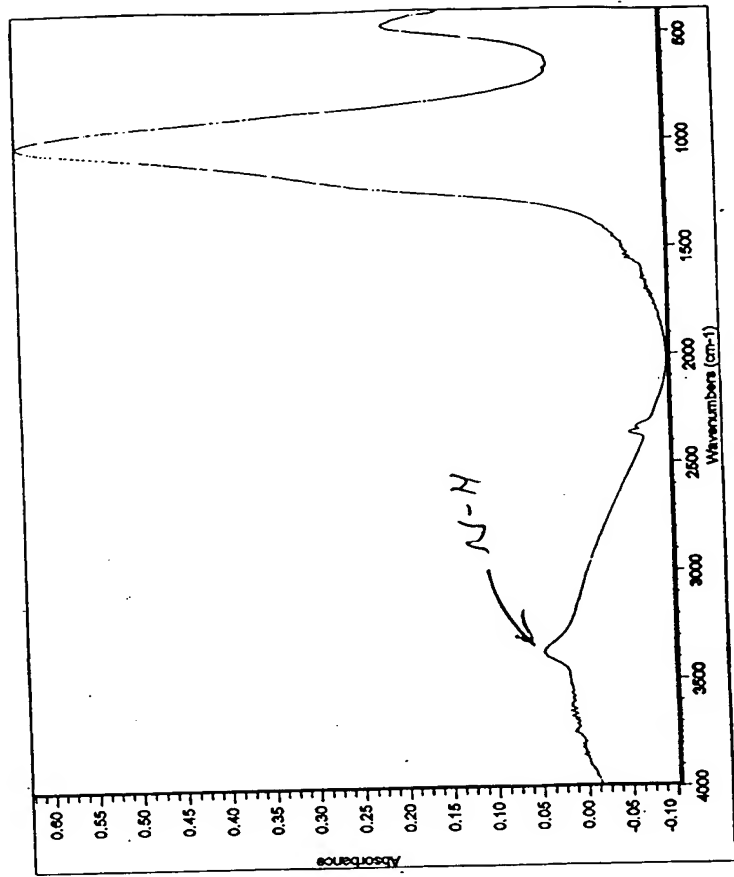
Fig 117

RI = 1.65



PE CVD

Fig 11I



HDP CVD

Fig 11J

HDP SiON RI=1.57

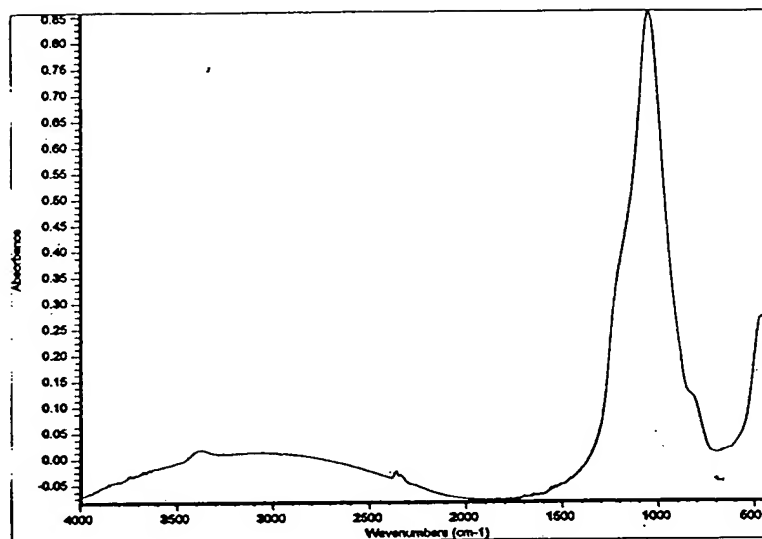


Fig 12A

HDP SiON RI=1.57 (ANN)

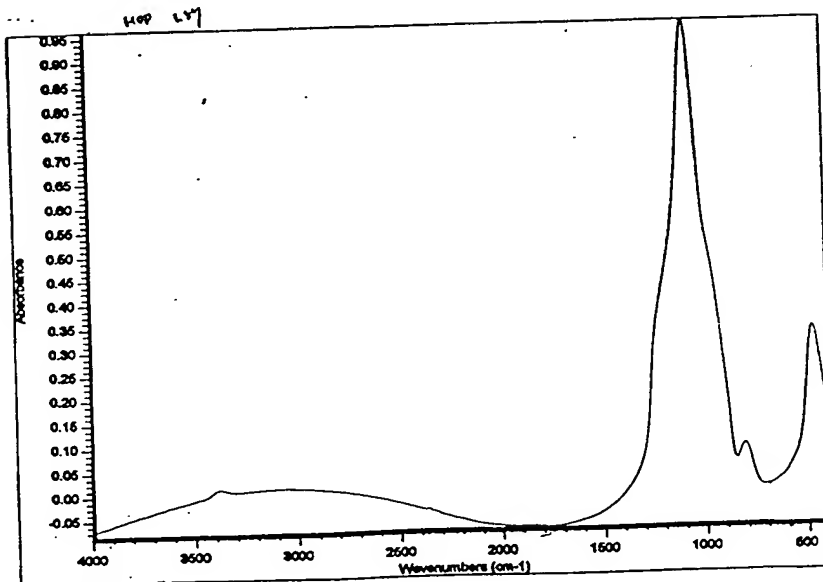


Fig 12B

HDP SiON RI=1.59

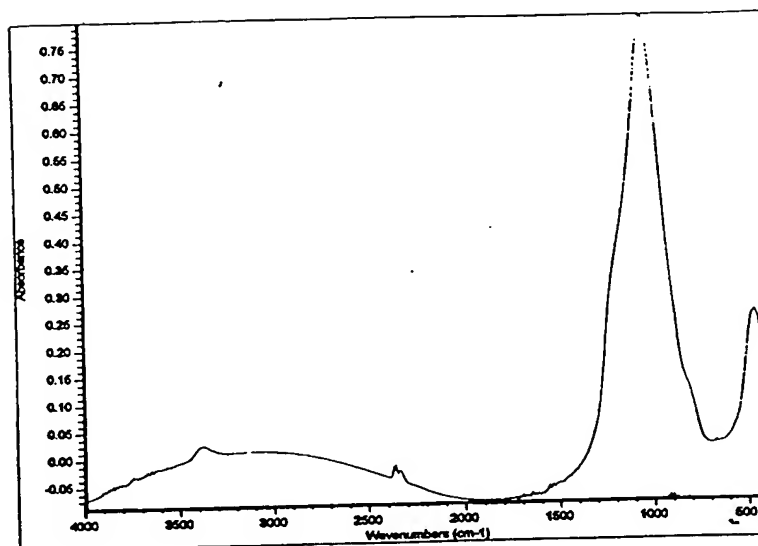


Fig 12C

HDP SiON RI=1.59 (ANN)

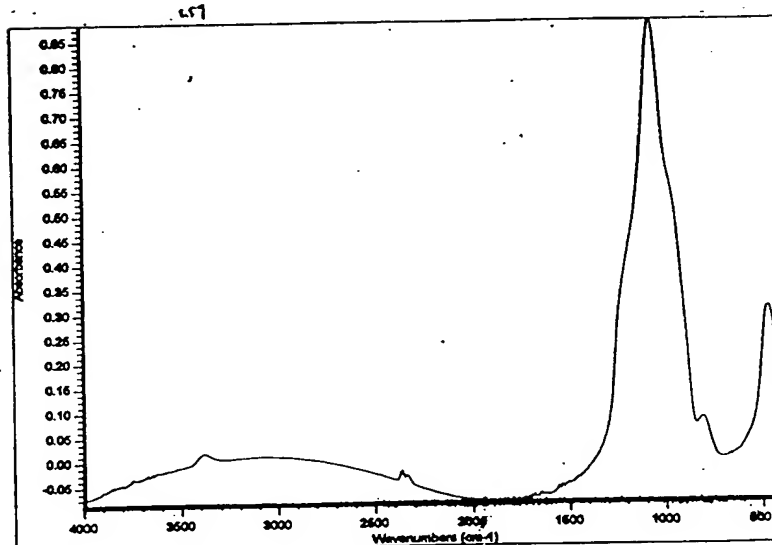


Fig 12D

HDP SiON RI=1.61

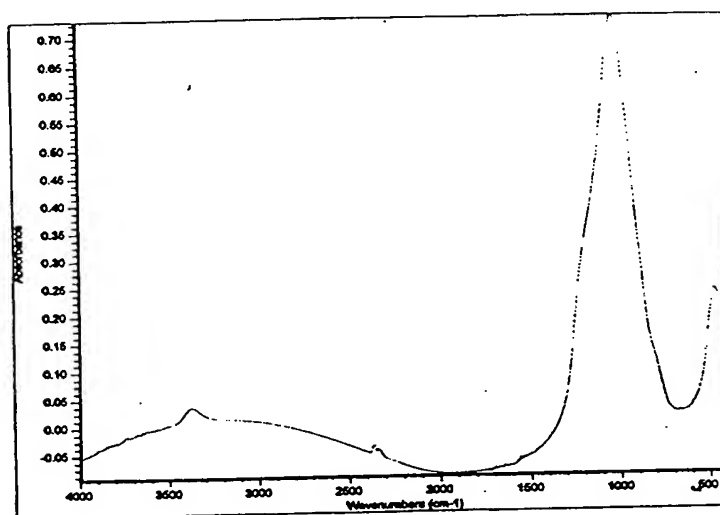


Fig 12E

HDP SiON RI=1.61 (ANN)

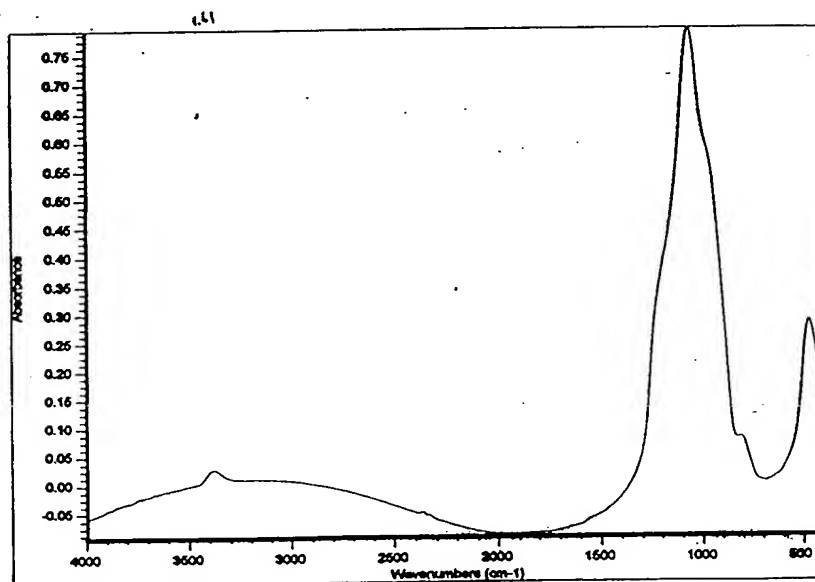


Fig 12F

HDP SiON RI=1.63

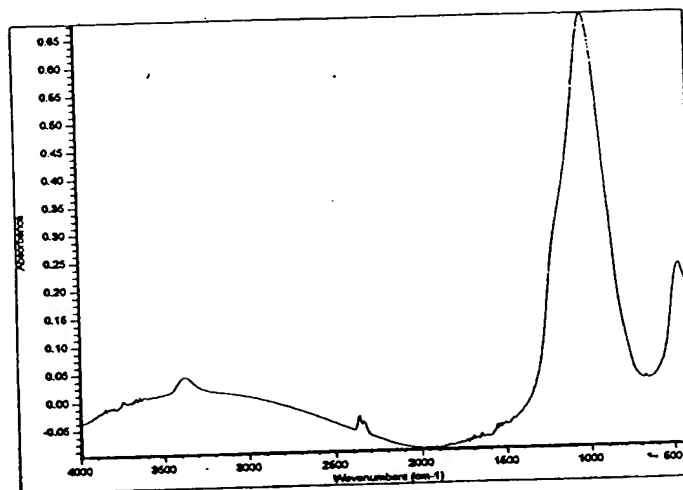


Fig 12G

HDP SiON RI=1.63 (ANN)

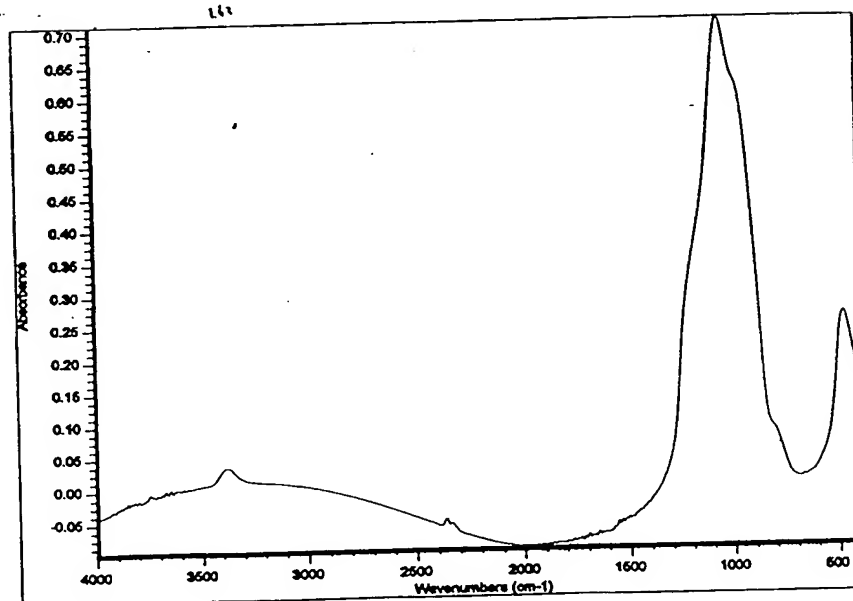


Fig 12H

HDP SiON RI=1.65

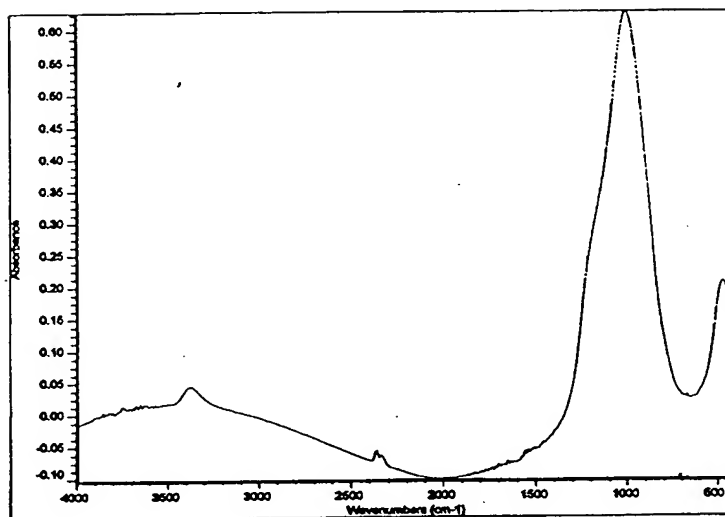


Fig 12I

HDP SiON RI=1.65 (ANN)

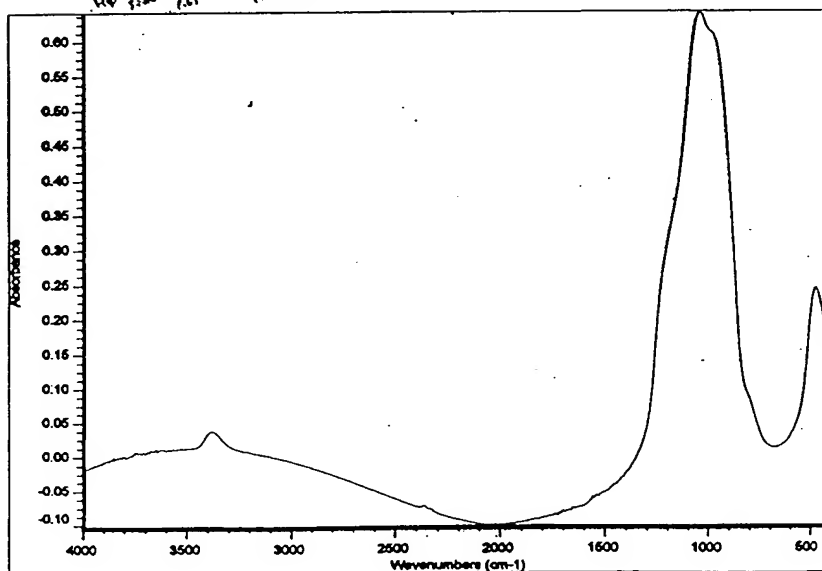


Fig 12J